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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,131	08/26/2004	Ronald Scott Bunker	154024-1	5130
23413 7590 01/03/2007 CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER RODRIGUEZ, WILLIAM H	
			ART UNIT 3746	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS			MAIL DATE 01/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/711,131	Applicant(s) BUNKER ET AL.	
	Examiner William H. Rodríguez	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the amendment and remarks filed 10/26/06. Since the examiner has applied new grounds of rejection, this office action is being made non-final to afford the applicant the opportunity to respond to the new grounds of rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-9 and 13-19 are rejected under 35 U.S.C. 102(b) as being anticipated by

Maeda (US 5,802,841).

Figure 9 of Maeda

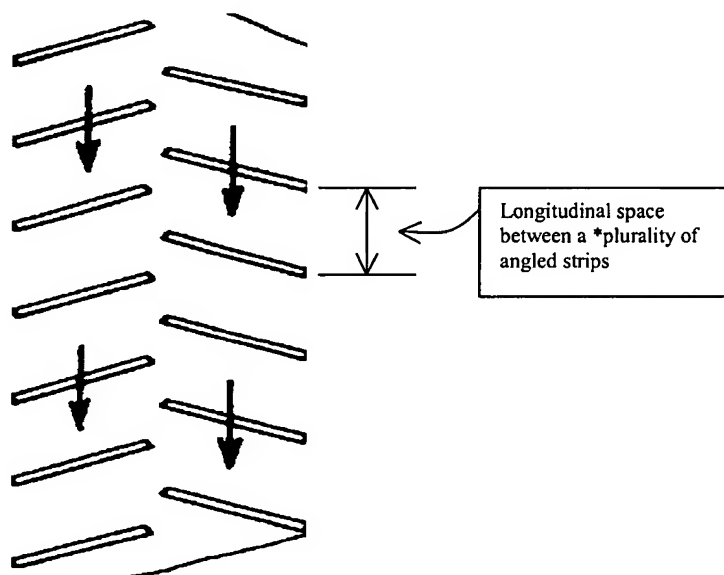


Figure 9 of Maeda

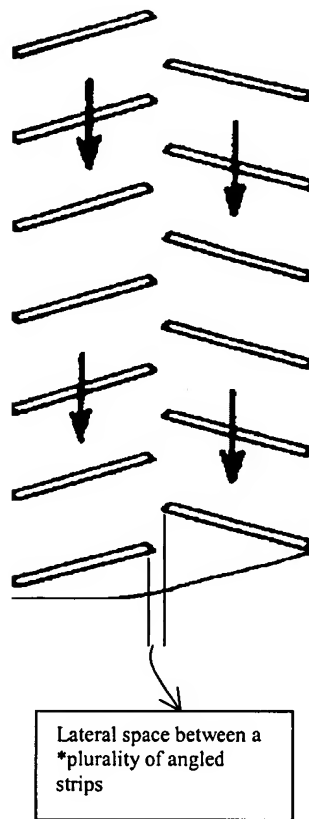


FIG. 4

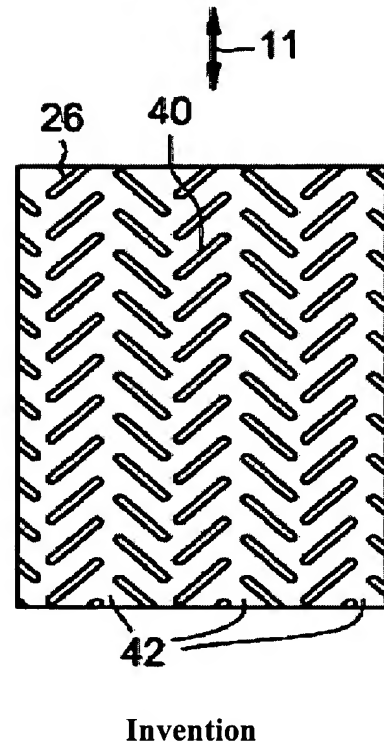


Figure 9 of Maeda clearly anticipates the invention as claimed and as shown in Figure 4.

*According to the Merriam Webster's Collegiate Dictionary, the definition of "plurality" is the state of being plural, and plural meaning more than one. Therefore, based on this dictionary definition, a broadest reasonable interpretation of the limitation "plurality" is interpreted to mean more than one angled strip, that is, two angled strips make a plurality.

With respect to claims 1, 2, 6-9, 13-16, **Maeda** (Figures 9 and 10 particularly) teaches a combustor liner comprising a *plurality of angled strips 27b integrally formed on an outer surface of said liner, said angled strip having a V shape and creating vortices on a cooling air flowing in a longitudinal direction across said outside surface of said combustor liner, said angles strips having a flat top, a space between each of said plurality of angles strips includes a

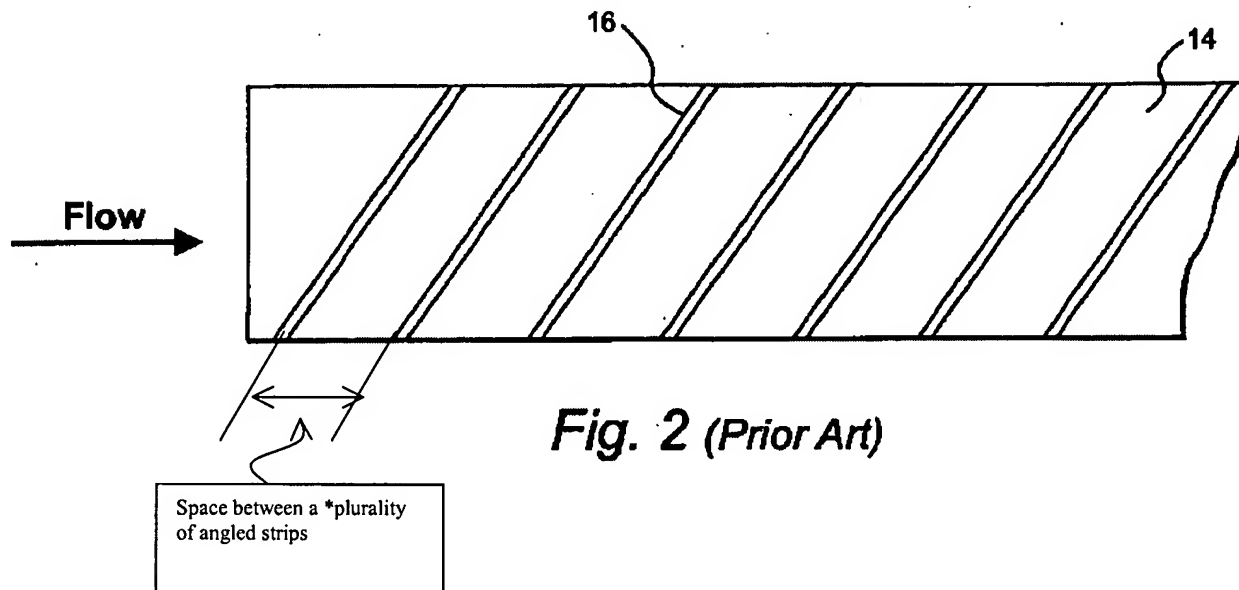
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lateral space and a longitudinal space, each angled strip having a height (as illustrated in Figure 10), said angled strips have an angle from a horizontal direction from about 30-60 degrees, said combustion liner is enclosed by a sleeve (Figure 8),. See particularly Figures 9 and 10; cl. 9 ll. 49-55; and cl. 11 ll. 25-30.

With regards to the limitations “V-shape and a base of said V-shape is removed and a first side is offset” in claims 3 and 4, notice that page 5 line 4 of the specification states that Figure 4 of the invention teaches a V-shape angled strip having a base removed and including a first side V-shape offset from the second side of the V-shape. Clearly Figure 9 of Maeda teaches this same structure, that is, a V shape angled strip having a base removed and including a first side V-shape offset from the second side of the V-shape.

With respect to claims 17-19, since Maeda has the same structure as claimed, it is inherent that Maeda’s device would be able to perform the recited method steps. Moreover, where a product by process claim is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

3. Claims 1, 8, 13 and 16-19 are rejected under 35 U.S.C. 102(e) as being anticipated by **Bunker (US 6,722,134)**.



The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Bunker (Figure 2) teaches a combustor liner comprising a *plurality of angled strips 16 integrally formed on an outer surface of said liner, said angled strip creating vortices on a cooling air flowing in a longitudinal direction across said outside surface of said combustor liner, said angled strips having a flat top, said angled strips have an angle from a horizontal direction from about 30-60 degrees. See particularly Figure 2; cl. 1 ll. 6-24; and cl. 2 ll. 47-50.

With respect to claims 17-19, since Bunker has the same structure as claimed, it is inherent that Bunker's device would be able to perform the recited method steps. Moreover, where a product by process claim is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maeda (US 5,802,841)**.

Regarding the claimed limitations "*the offset distance is about 0.3 to about 0.7; the angle strips have a height of about 0.02 inches to about 0.12 inches; the space between said angled strips is a ratio that ranges from approximately 6 to approximately 14; the lateral space is about 5 to 10 time the height of said angled strips*", to the extent that the claimed invention produces the claimed desired results, the applied prior art structure being the same, does the same. In addition, it has been held that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), MPEP 2144.05 II.

Moreover, the above claimed ranges for the height and space dimensions are considered to be obvious design choices, that one of ordinary skill in the art would have known how to optimize in view of the specific temperatures, and choice of materials used in the design.

Allowable Subject Matter

6. The indicated allowability of claims 3-7 and 9 is withdrawn in view of the rejections above.

Response to Arguments

7. Applicant's arguments filed 10/26/06 have been fully considered but they are not persuasive for the following reasons.

With respect to claim 1, applicant argues "a review of Maeda and particularly Figures 9 and 10, ...finds that no space exists between the rows of strips". First of all, Examiner notes that the limitation "a space between the rows of the strips" is not recited in claim 1 and thus arguments are irrelevant. Secondly, Figure 9 of Maeda above does teach a space between the rows of strips.

With respect to claim 2, applicant argues "the fins at alternating angles do not intersect each other at all and therefore do not intercept at a point, which one would, at a minimum, expect for them to be considered as being V-shaped". Examiner disagrees because Figure 9 of Maeda as shown above does teach that the angled strips at a minimum intercept at a point forming a V-shaped angled strip. Moreover, Figure 9 of Maeda clearly anticipates the invention as claimed and as shown in Figure 4.

Applicant's arguments with respect to claim 10 have been considered but are moot in view of the new ground(s) of rejection.

With respect to claim 17, applicant argues "Maeda does not disclose spaces between said plurality of strips". Examiner disagrees because Figure 9 of Maeda as shown above does teach a longitudinal and a lateral space between each of the *plurality of angled strips.

With respect to claim 1, applicant argues "without a second group or plurality of angled strips it is not possible to have a space between each of said plurality of angled strips". First of all, Examiner notes that the limitation "a second group" is not recited in claim 1 and thus arguments are irrelevant. Secondly, Figure 2 of Bunker above does teach a space between each of said *plurality of angled strips.

With respect to claim 17, applicant argues "Bunker does not disclose spaces between said plurality of strips". Examiner disagrees because Figure 2 of Bunker as shown above does teach a space between each of the *plurality of angled strips.

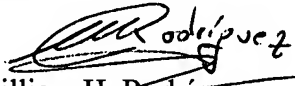
Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodríguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William H. Rodriguez
Primary Examiner
Art Unit 3746

12/18/06